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Claims

1. A communications system for providing media arbitration via a communications protocol using consecutive communication slots, the system comprising:
5 a plurality of communication nodes, each node arranged for communicating frames of data with the other nodes during a dynamic section comprising dynamic communication slots each having a communication slot number, each of the plurality of communication nodes
10 including
a time base comprising consecutive timeslots associated with the dynamic communication slots, each timeslot comprises at least two sub-time slots and a
15 transmission action point located at a boundary between two of the at least two sub-time slots, such that transmission of each frame of data starts and ends at a transmission action point and
means for determining a communication slot number
20 operable to increment the communication slot number if no communication is ongoing at the end of a time slot and to suspend incrementation of the communication slot number if communication is ongoing at the end of a time slot.
- 25 2. A communication node for use with a multi-node distributed communications system utilising a communications protocol using consecutive communication slots, the node arranged for communicating frames of data with other nodes of the system during dynamic
30 communication slots of a dynamic section, each dynamic

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communication slot having a communication slot number,
the node including:

a time base comprising consecutive timeslots
associated with the dynamic communication slots,
5 wherein each timeslot comprises at least two sub-time
slots and a transmission action point located at a
boundary between two of the at least two sub-time slots,
such that transmission of each frame of data starts and
ends at a transmission action point and

10 means for determining the communication slot number
operable to increment a communication slot number if no
communication is ongoing at the end of a time slot and to
suspend incrementation of the communication slot number
if communication is ongoing at the end of a time slot.

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3. A method for providing media arbitration in a multi-
node distributed communications system via a
communications protocol using consecutive dynamic
communication slots of a dynamic section, the method
20 comprising the steps of:

providing a system wide time base of time slots,
each timeslot comprising at least two sub-time slots and
a transmission action point located at a boundary between
two of the at least two sub-time slots;

25 each node of the system communicating frames of data
with the other nodes during the dynamic communication
slots, wherein the transmission of each frame of data
starts and ends at a transmission action point; and

each communication node determining the
30 communication slot number by incrementing the
communication slot number if no frame of data is

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communicated at the end of a time slot and suspending incrementation of the communication slot number if a frame of data is communicated at the end of a time slot.

5 4. The system of claim 1, node of claim 2 or method of claim 3 wherein the communication slots further include static communication slots.

5. The system, node or method of claim 4 wherein a
10 predetermined number of timeslots are utilised for each static communication slot.

6. The system, node or method of any previous claim wherein a dynamically allocated number of timeslots are
15 utilised for each dynamic communication slot.

7. The system, node or method of claim 6 wherein each dynamic communication slot in which frame transmission takes place is divided into alternating matching and
20 mismatching time slots, the matching time slots being valid transmission slots.

8. The system, node or method of any previous claim wherein each node comprises means for setting a current
25 communication slot number in response to whether a communication start is detected in a matching or mismatching time slot.

9. The system, node or method of any previous claim
30 wherein each node has an associated communication slot number and is operable not to transmit in dynamic

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communication slots having communication slot numbers different than the associated communication slot number.

10. The system, node or method of any previous claim
5 wherein each node comprises means for extending a transmission to a transmission action point.

11. The system, node or method of claim 10 wherein the transmission is by transmission of a busy signal.

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12. The system, node or method of any previous claim wherein each node comprises means for adjusting the time base in response to a frame identity of a frame being communicated in a dynamic communication slot.